

INFECTION PREVENTION & CONTROL PRINCIPLES IN EMERGENCY ROOM (ER)

DR. JAMILA MAHGOUP
IPC. PHYSICIAN
NNGH
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INFECTION PREVENTION GOALS

- Goal of infection control is to **PREVENT** the spread of infectious diseases.
- IPC OF NNGH maintain an ongoing program designed by the hospital to reduce the risk of the health care Associated infection (HAIS) in patients, visitors and health care workers through surveillance and continuous infection control education and training.

BICSL BASIC INFECTION CONTROL SKILL LICENCES

PURPOSE :

- To improve best practice of infection prevention and control procedures in the health care settings.
- To decrease HAIs among health care employee, patients & visitors.
- .
- Respirator Fit Test (**N95** mask)
- Hand Hygiene :
 - .
 - Steps of Hand Hygiene
 - 5 moments of **HH**
- **PPE** – Personal Protective Equipment
 - Donning (putting-on)
 - Doffing (Removing)

VACCINATION OF :

- **INFLUENZA** Vaccine – 1 year
- **MENINGITIS** Vaccine – 5 years

SAFE INJECTION PRACTICES:

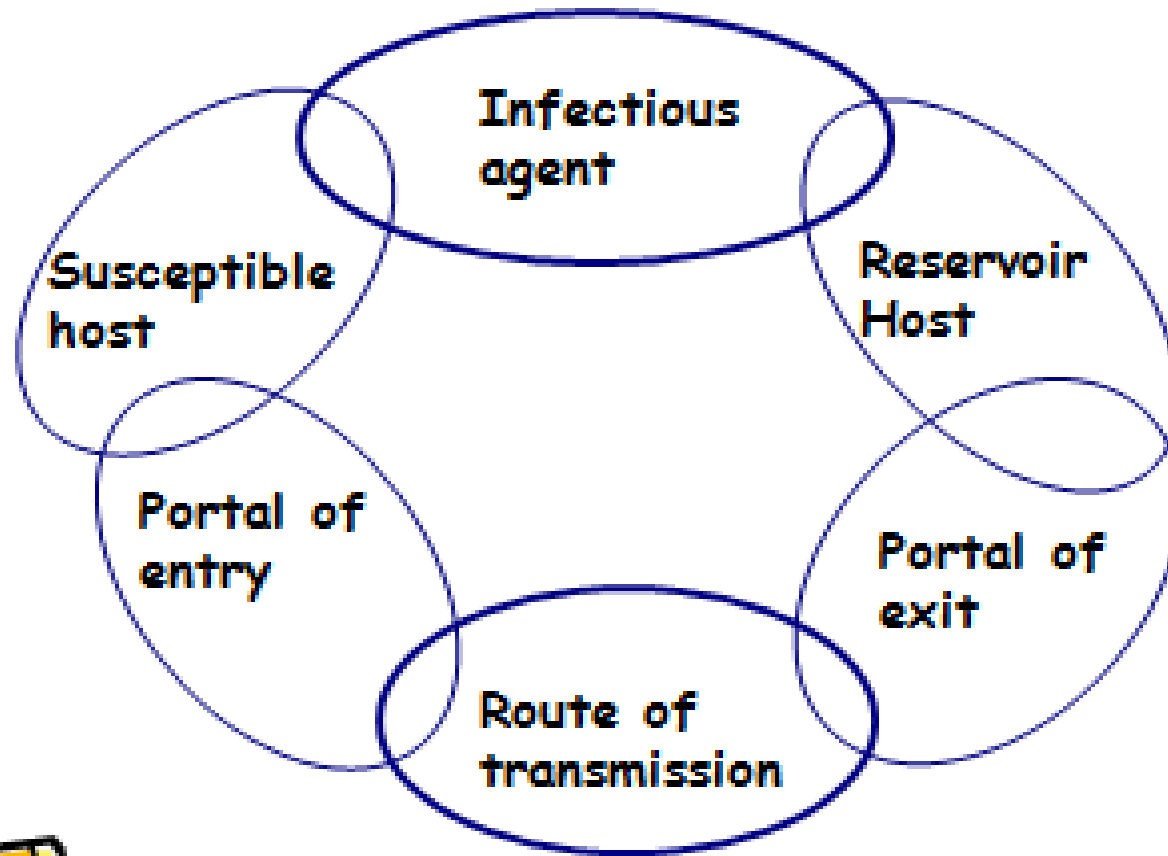
One needle

One Syringe

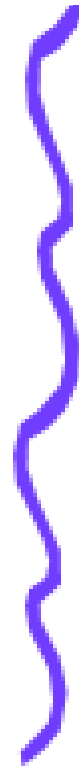
One Medication

Do not recap needle (needle stick injury)

Chain of infection



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PURPOSE :

- To provide guidelines on the basic infection control practices to prevent the transmission of infectious agents within the healthcare facility between patients, healthcare workers, sitters and visitors.
- These guidelines are designed to be used for the care of all patients (regardless of their diagnosis or presumed infection status), by all healthcare personnel, all sitters, and all visitors.
- Standard Precaution is used to break the chain of infection transmission and is used in conjunction with Isolation Precautions.

STANDARD PRECAUTIONS:

- **Standard precautions** are designed to reduce the risk of transmission of microorganisms from both recognized and unrecognized sources of infection in hospitals.

Standard precautions apply to blood, all body fluids (secretions and excretions except sweat regardless of whether they contain blood), non-intact skin and mucous membranes.

HAND HYGIENE (HH) PROCEDURE:

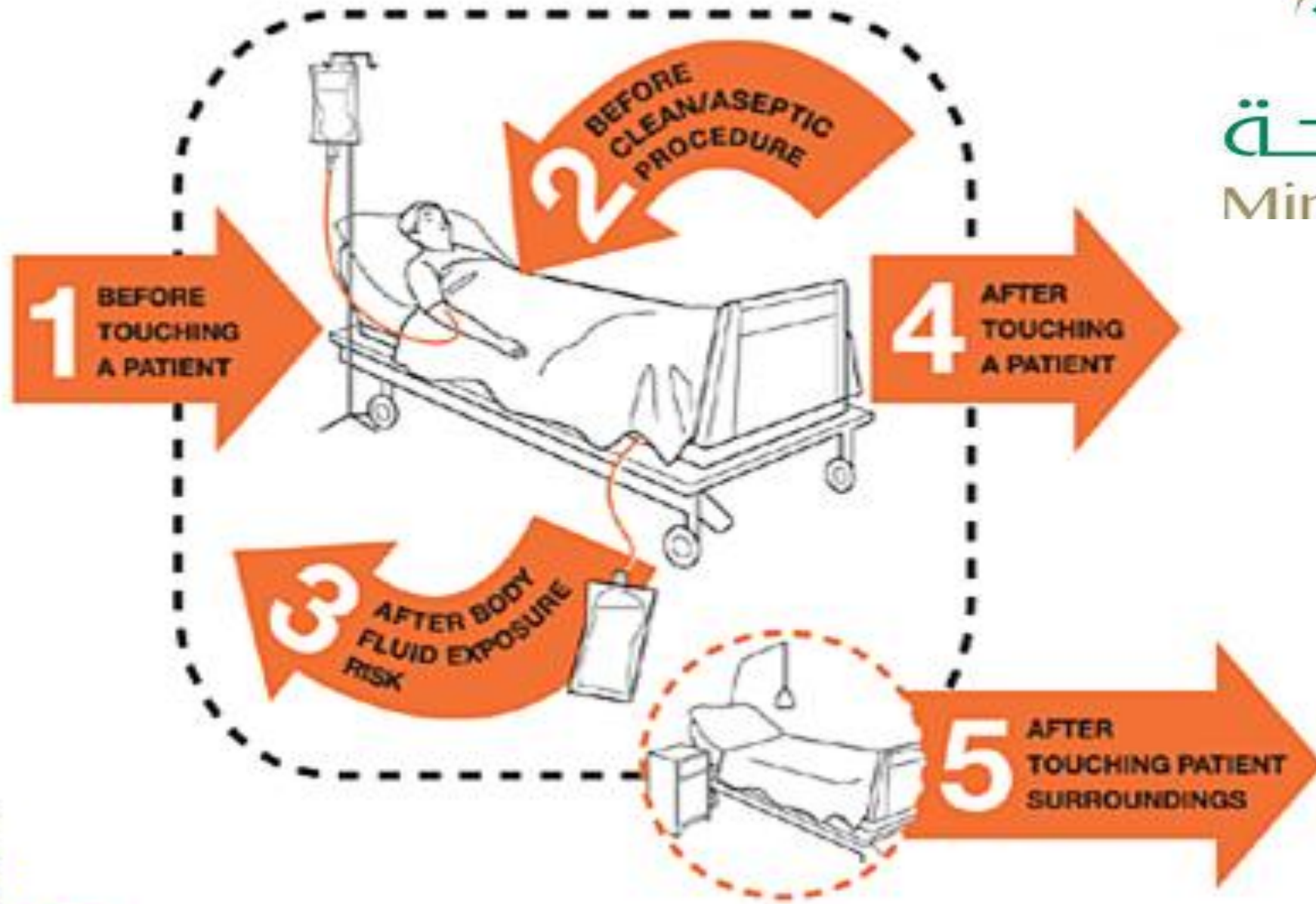
- The basic requirement for infection prevention and control strategies that will reduce spread of microorganisms.
- Methods of HH involve either antibacterial soap and water or alcohol-based waterless hand rub.
- HH is used to remove or kill microorganisms that colonize the hands.

THE WHO'S 5 MOMENTS FOR HH:

1. Before patient contact
2. Before clean/aseptic tasks
3. After body fluid exposure risk
4. After patient contact
5. After contact with patient surroundings




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How to Handrub?

RUB HANDS FOR HAND HYGIENE! WASH HANDS WHEN VISIBLY SOILED

 Duration of the entire procedure: 20-30 seconds



How to do Hand Wash: Duration 40-60 seconds



PERSONAL PROTECTIVE EQUIPMENT :

- PPE is used to create a barrier between HCWs and patients, body substances, or surfaces.
- Use appropriate PPE (gloves/gowns/plastic aprons/eye protection) to prevent skin and mucous
- membrane exposure. Use one or more of these items based on the degree and risk of exposure.
- However, most routine patient care activities at the bedside do not require the use of PPE.

PERSONAL PROTECTIVE EQUIPMENT :

GLOVES

1. Wear gloves whenever in contact with blood, other body substances or contaminated items and surfaces and when in an isolation room.
2. Wear and change gloves between tasks/procedures on the same patient.
3. Remove gloves promptly after use and before touching clean items and environmental surfaces.
4. Perform hand hygiene immediately after removing gloves.
5. Use non-sterile gloves for examinations and other clean procedures, and use sterile gloves for sterile procedures. Refer to **Aseptic Technique PP.**
6. Gloves are not to be worn after leaving the patient room or procedure area.

PERSONAL PROTECTIVE EQUIPMENT :

GOWNS/ PLASTIC APRON :

1. Wear a gown/plastic apron to protect skin and clothing during procedures that may generate splashes or aerosolization of body substances and cause the soiling of clothes.
2. Securely fasten the tabs/ties to keep the gown/plastic apron in place while performing patient care activities in the patient room/procedure area.
3. Remove the gown/plastic apron by untying the tabs/ties and folding it away from you in an inside-out manner. Roll it into a ball and discard.
4. Change the gown/plastic apron for each patient and/or procedure.
5. Gloves/aprons are not to be worn after leaving the patient room or procedure area.

PERSONAL PROTECTIVE EQUIPMENT :

MASKS (surgical or N95)

1. Wear a surgical mask (with protective eye/face wear) if splashing or aerosolization of blood or body fluids is expected.
2. Change mask between patients and sooner if mask becomes wet, moist or torn.
3. Wear an N95 mask when indicated to enter an airborne isolation room, and remove it only when outside of the room.
4. Surgical mask are not to be worn after leaving the patient's room or procedure area.
5. Surgical mask or N-95 mask are meant to be used as single use every after patient encounter.

PERSONAL PROTECTIVE EQUIPMENT :

PROTECTIVE EYE/FACE WEAR :

1. Wear protective eye/face wear if required for combined protection from eye/face contamination by aerosolized body substances.
2. Wash and disinfect visibly soiled reusable face shields or protective eyewear prior to reuse, according to hospital policy.
3. Protective eyewear /face wear are not to be worn after leaving the patient room or procedure area.

PERSONAL PROTECTIVE EQUIPMENT :

Sequence of donning and doffing of PPEs before entering and leaving a patient's room.

1. Don PPEs in this order:

- ❖ Hand hygiene,
- ❖ Gown,
- ❖ Surgical mask,
- ❖ Goggles/face shield
- ❖ Gloves

2. Doff PPEs in this order:

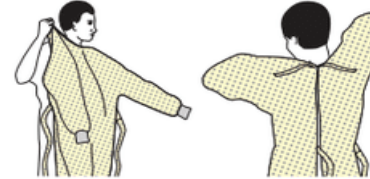
- ❖ Gloves,
- ❖ Hand hygiene,
- ❖ Goggles/face shield,
- ❖ Gown
- ❖ Hand hygiene,
- ❖ Surgical mask
- ❖ Hand hygiene

SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)

The type of PPE used will vary based on the level of precautions required, such as standard and contact, droplet or airborne infection isolation precautions. The procedure for putting on and removing PPE should be tailored to the specific type of PPE.

1. GOWN

- Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
- Fasten in back of neck and waist



2. MASK OR RESPIRATOR

- Secure ties or elastic bands at middle of head and neck
- Fit flexible band to nose bridge
- Fit snug to face and below chin
- Fit-check respirator



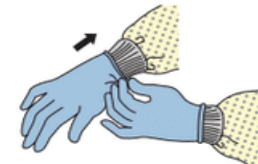
3. GOGGLES OR FACE SHIELD

- Place over face and eyes and adjust to fit



4. GLOVES

- Extend to cover wrist of isolation gown



USE SAFE WORK PRACTICES TO PROTECT YOURSELF AND LIMIT THE SPREAD OF CONTAMINATION

- Keep hands away from face
- Limit surfaces touched
- Change gloves when torn or heavily contaminated
- Perform hand hygiene

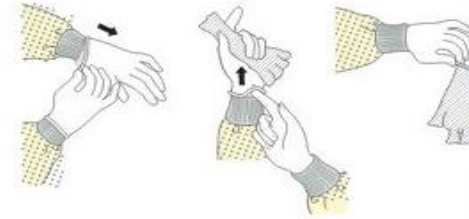


SEQUENCE FOR REMOVING PERSONAL PROTECTIVE EQUIPMENT (PPE)

Except for respirator, remove PPE at doorway or in anteroom. Remove respirator after leaving patient room and closing door.

1. GLOVES

- Outside of gloves is contaminated!
- Grasp outside of glove with opposite gloved hand; peel off
- Hold removed glove in gloved hand
- Slide fingers of ungloved hand under remaining glove at wrist
- Peel glove off over first glovet
- Discard gloves in waste container



2. GOGGLES OR FACE SHIELD

- Outside of goggles or face shield is contaminated!
- To remove, handle by head band or ear pieces
- Place in designated receptacle for reprocessing or in waste container



3. GOWN

- Gown front and sleeves are contaminated!
- Unfasten ties
- Pull away from neck and shoulders, touching inside of gown only
- Turn gown inside out
- Fold or roll into a bundle and discard



4. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated – DO NOT TOUCH!
- Grasp bottom, then top ties or elastics and remove
- Discard in waste container



**PERFORM HAND HYGIENE BETWEEN STEPS
IF HANDS BECOME CONTAMINATED AND
IMMEDIATELY AFTER REMOVING ALL PPE**



CB 255072-A

HANDLING/DISPOSAL OF CONTAMINATED ITEM

NEEDLES/ SHARPS :

- a. Dispose used sharp items into an approved puncture-resistant container immediately after use, at the point of use, or as close to point of use, as possible.
- b. Do not place used sharp items on any environmental surface.

3. HANDLING/DISPOSAL OF CONTAMINATED ITEMS

- Do not **RECAP** or manipulate needles using both hands because this increases the risk of injury. If recapping or manipulating the needle is deemed essential, then use either
- **one-hand “scoop” technique** or a mechanical device designed to hold the needle sheath.



3. HANDLING/DISPOSAL OF CONTAMINATED ITEMS

- Before attempting to remove needles from reusable aspirating syringes, recap them with either one-handed “scoop” technique or a mechanical device designed to hold the needle sheath.
- Keep sharp containers **CLOSED** at all times.
- Discard sharp containers when $\frac{3}{4}$ **full** or When ***odor arises*** or **after one (1) month** and remove for incineration.

PUNCTURE-RESISTANT CONTAINER FOR SHARPS



ONE HAND TECHNIQUE

Post injury / exposure protocol

- ✓ Don't PANIC !!!
- ✓ Don't squeeze the injured site
- ✓ Wash with soap and water immediately
- ✓ Report to the casualty & provide,
 - (i) Full history of injury or exposure
 - (ii) History of Hepatitis B immunization
 - (iii) Blood for testing



3. HANDLING/DISPOSAL OF CONTAMINATED ITEMS

2. LINEN :

- Handle and transport linen in a manner that will prevent skin/mucous membrane exposure and contamination of clothing or transferring microorganisms to other patients or the environment.
- Place wet/heavily soiled linen in a designated impermeable bag and close the bag securely or wrap wet linen in another piece of linen to avoid soaking of the bag.
- ***Refer to Laundry Policy & Procedure.***

3. HANDLING/DISPOSAL OF CONTAMINATED ITEMS

3. Medical waste

- Place biomedical waste in identifiable (color-coded) bags or appropriate containers.
- Securely tie or close bags/containers and remove for appropriate disposal.

Refer to Management of Infectious Waste Policy & Procedure.



3. HANDLING/DISPOSAL OF CONTAMINATED ITEMS

4. Patient care equipment :

- Handle used patient care equipment in a manner that prevents skin and mucous membrane exposure, contamination of clothing and transfer of microorganisms to other patients or the environment.
- Commonly used equipment must be clean and disinfected between patients.

3. HANDLING/DISPOSAL OF CONTAMINATED ITEMS

- Do not reuse single-use items.
- Remove organic material from critical and semi-critical instruments/devices using recommended cleaning agents before transfer to CSSD for high-level disinfection or sterilization.
- Ensure that reusable equipment is properly transported in leak-proof containers to CSSD for reprocessing before use with another patient.

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4. LABORATORY SPECIMENS :

- Wear gloves before obtaining laboratory specimens.
- Place laboratory specimens in designated containers and seal appropriately.
- Remove gloves and perform hand hygiene once all laboratory specimens are in the appropriate containers.
- Label containers with appropriate patient data.



4. LABORATORY SPECIMENS :

- Transfer to the laboratory in an upright position as much as possible and as promptly as possible.
- Ensure no leakage of the laboratory specimens.
- Ensure that the requisition has the complete information as this is critical for laboratory analysis and clinical interpretation.

5. ROOM CLEANING

1. Rooms should be cleaned daily and after patient discharge.
2. Cleaning is required as per housekeeping policies.

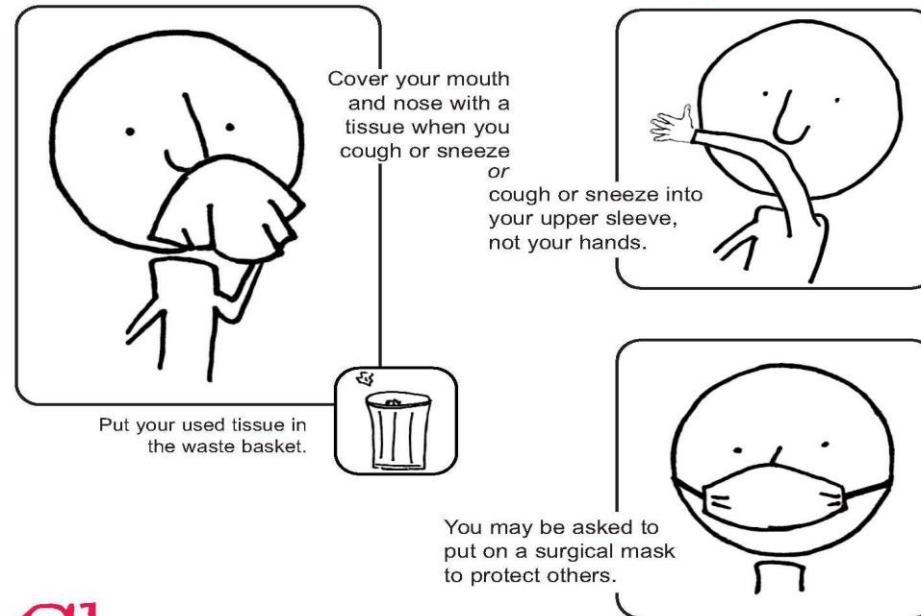
6. PATIENT PLACEMENT :

Place patients who pose as risk of transmission to others (e.g., those with uncontained secretions, Excretions, or wound drainage) in single-patient rooms when available. If a single room is not available, ensure contact isolation precautions are applied in a shared room.

7. COUGH ETIQUETTE :

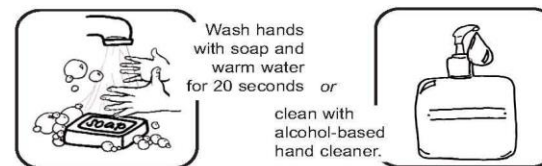
1. Cover nose and mouth with a tissue when coughing or sneezing.
2. Dispose used tissue in the nearest waste receptacle.
3. Clean hands with soap and water or antiseptic solution or with an alcohol-based hand rub after touching respiratory secretions or handling contaminated objects.

Cover your Cough



Clean your Hands

after coughing or sneezing.



8. FOOD AND DRINKS AT THE WORK STATION :

- ❖ Consumption of food and drinks in clinical areas with potential for exposure to blood or other
- ❖ infectious material or where the potential for contamination of work surfaces exist are prohibited.
- ❖ However, water bottles with protective lids, properly labeled with the employees name are allowed.

TRANSMISSION BASED PRECAUTIONS

THREE

1-AIRBORNE

2-DROPLET

3-CONTACT



Airborne Precautions

- Airborne droplets or dust particles containing infectious agents can remain suspended in the air for long periods of time
- Air currents can blow them long distances
- Can be emitted during talking, sneezing, coughing and whispering
- Examples: Mycobacterium tuberculosis, Rubeola (measles) and Varicella (chicken pox)



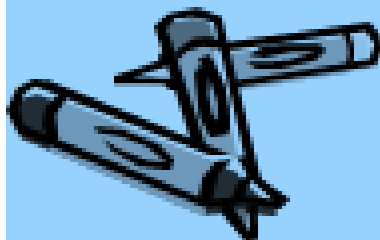
Droplet Precautions

- Propelled short distances through the air
- Deposited on host's conjunctiva, nasal mucosa or mouth
- Can be emitted during talking, sneezing, coughing and during procedures like suctioning and bronchoscopy
- Examples: streptococcal pharyngitis, mumps, influenza, rubella, some pneumonias, meningitis and sepsis



Contact Precautions

- Most important and frequent mode of transmission for nosocomial infections
 - Nosocomial = originates/takes place in hospital or other health care facility
 - Nosocomial infection = the client gets it as a result of being in the health care facility
- Example: herpes (HSV), impetigo, scabies, some gastrointestinal, respiratory, skin and wound infections
- Direct-contact & Indirect-contact transmission



VISUAL TRIAGE

- VISUAL TRIAGE (**VT**) an area in the entrance of ER where the patient should go first .
- Respiratory symptoms ,diarrhea sister should ask for it
- Sister in the VT ask the patient for his symptoms and should give score if the score is 4 or more ,sister ask the patient to perform hand hygiene and to wear surgical mask should shift to negative isolation room or to wait in respiratory waiting area if there patient in the negative isolation room(because this patient is suspected to have MERSCOV .
- Then sister call the doctor to examine and evaluate the patient in side the negative isolation room .
- Portable x-ray should bring inside the negative isolation room.

VISUAL TRIAGE

- NASOPHARYNGEAL swab should be taken inside the **NEGATIVE** ISOLATION ROOM.



VISUAL TRIAGE (VT)

- VISUAL TRIAGE AREA SHOULD BE COVERED **24** HOURS BY THE STAFF
- **ALL** ER PATIENT FIRST SHOULD GO TO VISUAL TRIAGE TO ASK THEM ABOUT THEIR SYMPTOMS

- **HAI (Healthcare Associated Infections):** An infection is considered be HAI if the date of event of the site-specific criterion occurs on or after the 3rd calendar day of admission to the facility, with the day of admission to an inpatient location being calendar day 1.
- **DEVICE-ASSOCIATED INFECTION:**
- An infection meeting the HAI definition is considered a device-associated HAI if the device was in place for >2 calendar days when all elements of a CDC/NHSN site-specific infection criterion were first present together. HAIs occurring on the day of device discontinuation or the following calendar day are considered device-associated HAIs if the device had been in place already for >2 calendar days.

CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTION (CLABSI) EVENT:

A laboratory-confirmed primary bloodstream infection (LCBI) where central line (CL) was in place for >2 calendar days on the date of event, with day of device placement being Day AND A CL was in place on the date of event or the day before. If a CL was in place for >2 calendar days and then removed, the date of the event of the LCBI must be the day of device discontinuation or the next day.



- ***VENTILATOR-ASSOCIATED PNEUMONIA (VAP) EVENT:***
- A pneumonia where the patient was on mechanical ventilation for >2 calendar days on the date of event, with day of ventilator placement being day 1 and the ventilator was in place on the date of event or the day before.
- VAP is not monitored after the patient is discharged from the facility.

- ***CATHETER-ASSOCIATED URINARY TRACT INFECTION (CAUTI) EVENT:***

- A UTI where an indwelling urinary catheter was in place for >2 calendar days on the date of the event, with day of device placement being Day 1 AND An indwelling urinary catheter was in place on the date of event or the day before. If an indwelling urinary catheter was in place for >2 calendar days and then removed, the date of event for the UTI must be the day of discontinuation or the next day for the UTI to be catheter-associated.

SSI

- The SSI is an infection that occurs within 30 days (superficial incisional SSI) or within **30 or 90 days** (for Deep Incisional SSI and Organ/Space) after an operative procedure that involves the skin or subcutaneous tissue (superficial incisional SSI), deep soft tissue (deep incisional SSI), or any other part of the body that is opened or manipulated during the operative procedure (organ/space SSI)



DEFINITIONS

- **MDROs** are bacteria that are resistant to many or all available antibiotics.
- Methicillin-Resistant Staphylococcus Aureus (**MRSA**) and Vancomycin-Resistant
- Enterococci (**VRE**) are important resistant microorganisms encountered in the hospital;
- Extended Spectrum Beta-lactamases (**ESBLs**) and Carbapenem-Resistant
- Enterobacteraceae (CRE) are among primary resistant microorganisms of significant
- concern in the healthcare setting and are endemic in many hospitals of the GCC countries.
- Proper attention to these pathogens is critical to curtail further emergence of these highly resistant organisms.

- Multidrug resistant organisms (**MDRO**) are defined as bacteria that have become resistant
 - to more than one class of antimicrobial agents and usually are resistant to all but one or two
 - commercially available antimicrobial agents,
 -
- **POLICIES**
 - Standard precautions must be observed for all patient care.
 - Initiate contact precautions in addition to standard precautions.
 - Microbiology lab will notify the ward and Infection Prevention and Control (IP&C)
 - Department of the MDROs

MERSCOV



- MIDDLE East Respiratory Syndrome (MERS) is a viral respiratory disease caused by a novel corona virus (Middle East Respiratory Syndrome **CORONAVIRUS**, or MERS-CoV) that was first identified in Saudi Arabia in 2012.
- Typical MERS-CoV symptoms include fever, cough and shortness of breath. Pneumonia is common, but not always present. Approximately 35% of reported patients with MERS-CoV have died.
- Although some of human cases of MERS-CoV have been attributed to human-to-human infections in health care settings, current scientific evidence indicates that camels are a major reservoir host for MERS-CoV and an animal source of MERS-CoV infection in humans

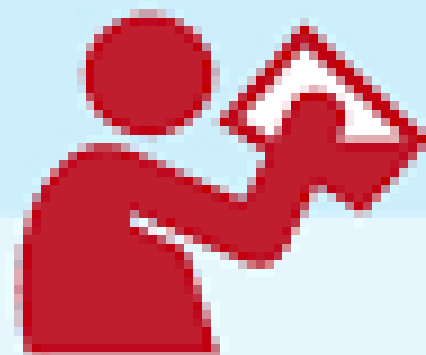
CHOLERA

- Infectious disease cause acute watery diarrhea
- Caused by bacterium called **Vibrio** cholerea
- Can lead to death (Dehydration) . First management is to **rehydrate** the patient (severe-Moderate –Mild)
- Sanitation –hygiene-drinking clean water-oral cholera vaccine all these are the most important measures to prevent the spread of cholera among community

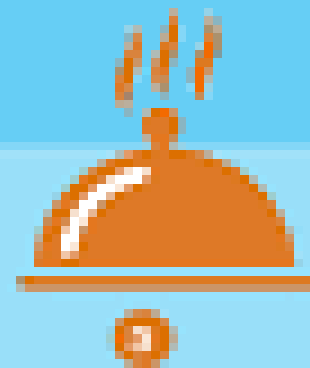




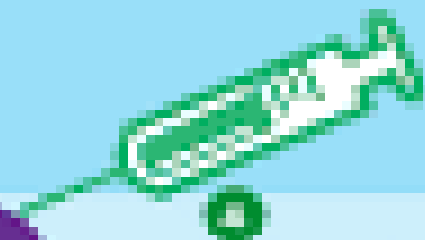
1 Wash your hands often with soap and safe water



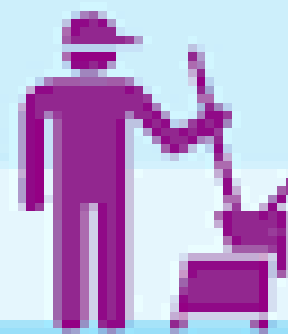
2 Drink safe/untreated water



3 Cook food well, keep it covered, and eat hot, unspiced fruits and vegetables



4 Consider getting vaccinated



5 Clean up safely – in the latrine and in places for bathing and washing clothes

STOP
CHOLERA
PREVENTION TIPS

Thank
you